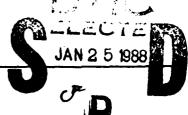


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19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Analytical Electron Microscopy

28. ABSTRACT (Continue on reverse side if necessary and identify by block number)

see attached

FINAL REPORT

on

"REQUEST FOR AN ANALYTICAL TRANSMISSION ELECTRON MICROSCOPE"

Submitted by

Hamish L. Fraser

Department of Materials Science and Engineering

University of Illinois

Urbana, IL 61801

October 16th., 1987

Introduction

A request was made in response to the DoD/URIP FY86/FY87 University Equipment Program. At that time, an advanced analytical transmission electron microscope was requested. Following the award of funds, the microscope has been chosen, ordered and is to be delivered shortly. It will be in essence the most advanced microscope of it's kind.

Action to Date

Following the award of funds, the first item of acction was to select the given electron microscope. All available literature on the competing instruments was gathered, and in two instances two site visits were made for the purposes of demonstration. The choice of a Philips CM12 was made, since it was felt that this microscope would be able to fulfil/the needs of the research effort to which it will be applied. Thus, an order was made for the microscope, scanning transmission electron microscopy unit, energy dispersive x-ray analysis system, and other smaller items as detailed in the proposal. The delivery date for this equipment has been estimated as being on or about the first week of November, 1987. At that time, acceptance tests will be made following installation. We estimate full operation by the end of November. A supplemental report on the performance of this microscope will be made to the technical monitor after some period of operation.

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